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10/598,236	08/22/2006	Michel Paul Barbara Van Bruggen	NL040244US1	1546

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BRIARCLIFF MANOR, NY 10510

EXAMINER

HOLLWEG, THOMAS A

ART UNIT

PAPER NUMBER

2879

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/598,236

**Applicant(s)**

VAN BRUGGEN ET AL.

**Examiner**

Thomas A. Hollweg

**Art Unit**

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-19 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 22 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Acknowledgment of Amendment***

1. Applicant's Amendment After Final Action, received July 14, 2008, is acknowledged. The arguments presented have been fully considered and have found to be persuasive. The finality of the office action of May 14, 2008, is withdrawn.
2. No claims are added or canceled. Claims 1-19 are currently pending.

### ***Claim Objections***

3. The following claims are objected to because of the following informalities:
  - a. Claims 1, 5 and 11-14 use the words "inorganic particles" and "inorganic material" interchangeably for what is contained in the suspension. Consistent terminology should be used when addressing the same elements.
  - b. Claim 6, the phrase "a high-intensity discharge lamp comprising an elongate ceramic discharge vessel surrounded by an outer envelope and having a wall" is unclear. Specifically as to which of the three listed elements has the wall, the lamp, the discharge vessel or the outer envelope. For examination, it is assumed that the wall is a component of the discharge vessel.
  - c. Claim 6, the "ceramic wall" lacks antecedent basis.
  - d. Claim 10, the word "beamer" is not conventional English. It appears to be either slang or derived from a foreign language.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.
6. The specification briefly mentions that the ceramic discharge vessel and the coating may be formed of several different materials (page 2, lines 2-24), however the specification only goes on to explain how the invention may be performed using alumina. The disclosure is not enabling for the invention claimed in claim 19 where the non-conductive inorganic particles are made of YAG ( $\text{Y}_3\text{Al}_5\text{O}_{12}$ ),  $\text{Y}_2\text{O}_3$ , AION, or PLZT (Pb-La-Zr-Ti).

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3 and 11-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Persiani et al., U.S. Patent No. 4,736,136.
9. With regard to claim 1, in figures 1 and 2, Persiani discloses a process of manufacturing a high-intensity discharge lamp comprising an elongate ceramic discharge vessel (20) surrounded by an outer envelope (col. 6, line 15) and having a

wall which encloses a discharge space containing an inert gas, such as xenon, and an ionizable filling (col. 6, lines 6-7), wherein at both ends in said discharge space an electrode (60) is arranged, between which electrodes (60) a discharge arc can be maintained along a discharge path, characterized in that, in order to improve light transmission of the discharge vessel, said process comprises the step of placing the discharge vessel (20) in contact with a suspension of inorganic particles and allowing the suspension to enter pores in said wall, thus completely coating (80) the surface of said wall (col. 3, line 55 – col. 4, line 65).

10. With regard to claim 2, in figures 1 and 2, Persiani discloses that the suspension is applied to the surface of the discharge vessel (20) in a dipping or spraying operation (col. 3, lines 66-68).

11. With regard to claim 3, in figures 1 and 2, Persiani discloses that the coated discharge vessel (20) is subsequently sintered in order to allow the coating (80) to become an integral fused part of the ceramic wall of the discharge vessel (20) (col. 4, lines 8-9).

12. With regard to claim 11, in figures 1 and 2, Persiani discloses that the suspension consists of an inorganic material is dispersed in a liquid medium (col. 3, lines 66-68; col. 4, lines 35-42).

13. With regard to claim 12, in figures 1 and 2, Persiani discloses that the discharge vessel is made of the inorganic material (col. 2, line 52).

14. With regard to claim 13, in figures 1 and 2, Persiani discloses that the inorganic material is  $\text{Al}_2\text{O}_3$  (col. 4, lines 41-42).

15. With regard to claim 14, in figures 1 and 2, Persiani discloses that the inorganic particles are non-conductive (col. 4, lines 41-42).
16. With regard to claim 15, in figures 1 and 2, Persiani discloses that the inorganic particles are non-conductive (col. 4, lines 41-42).
17. With regard to claim 16, in figures 1 and 2, Persiani discloses a process of manufacturing comprising: providing an elongate ceramic discharge vessel (20) having a wall including pores (shown in fig. 2); mixing a suspension consisting of nonconductive inorganic particles dispersed in a liquid medium; filling the pores with the suspension to form a coating (80); and sintering the elongate discharge vessel to form the coating into an integral fused part of the wall (col. 3, line 56 – col. 4, line 64).
18. With regard to claim 17, in figures 1 and 2, Persiani discloses that the elongate ceramic discharge vessel (20) and the non-conductive inorganic particles are made of the same material (col. 3, lines 28-30).
19. With regard to claim 18, in figures 1 and 2, Persiani discloses that the same material is  $Al_2O_3$  (col. 3, lines 28-30).

***Claim Rejections - 35 USC § 103***

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Persiani as applied to claims 1 and 3 above, in view of itself.

22. With regard to claim 4, in figures 1 and 2, Persiani discloses all of the limitations, including that the sintering of the coated discharge vessel may be performed at a sintering temperature of 500° C or 1000° C (col. 5, lines 44) and that in operation the lamp is exposed to temperatures as high as 1200° C which does not affect the transmission of the coating (col. 6, lines 31-33).

23. While Persiani teaches that the sintering of the coated discharge vessel may be performed at a temperature as low as 500 ° C, one having ordinary skill in the art would understand that a sintering temperature as high as 1200° C may be used to achieve the same result with little or no effect on the performance of the discharge vessel, and that a higher sintering temperature may reduce the time necessary to form the coating.

24. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the Persiani lamp where the coated discharge vessel is sintered at a sintering temperature varying between 1150 and 1500° C, with little or no effect on the performance.

25. With regard to claim 5, in figures 1 and 3, Persiani discloses that the inorganic particles are  $\text{Al}_2\text{O}_3$  particles (col. 3, line 29), and wherein  $\text{Al}_2\text{O}_3$  grains in the sintered material have an average grain size varying between 0.3 and 10 microns ( $\mu\text{m}$ ) (col. 3, lines 39-40).

26. With regard to claim 6, in figures 1 and 2, Persiani discloses a high-intensity discharge lamp comprising an elongate ceramic discharge vessel (20) surrounded by an outer envelope (col. 6, line 15) and having a wall which encloses a discharge space containing an inert gas, such as xenon, and an ionizable filling (col. 6, lines 6-7),

wherein at both ends in said discharge space an electrode (60) is arranged, between which electrodes (60) a discharge arc can be maintained along a discharge path, characterized in that a coating (80) of inorganic particles completely covers and is made an integral fused part of the ceramic wall of the discharge vessel (20), which integral fused part has a pore-filling effect (see fig. 2) (col. 2, line 49-col. 3 line 1; col. 3, lines 28-54).

27. Persiani is silent as to the porosity of the finished ceramic wall. Persiani teaches, however, that the ceramic wall has a high density (col. 2, line 52) and further teaches that the coating acts to reduce the porosity of the wall so that sodium cannot migrate through the wall (col. 2, lines 1-4).

28. The ceramic wall of Persiani may inherently have a porosity that is smaller than 1.01%. Alternatively, at the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the Persiani discharge vessel with a suitable coating such that porosity of the finished ceramic wall of the discharge vessel is smaller than 0.01%, to prevent sodium migration through the wall, as taught by Persiani.

29. With regard to claim 7, in figures 1 and 2, Persiani discloses that the integral fused part has a surface leveling and a smoothening effect (shown in fig. 2) (col. 3, lines 28-54).

30. Persiani does not expressly disclose experimental transmission performance results of total transmission of more than 98%, the total forward transmission above 80%, and the real in-line transmission lying between 6% and 80% (for a wall thickness of 0.3 mm and a wavelength of 640 nm).

31. Persiani discloses a total transmission of 96.91% and a real in-line transmission of 5.80% (col. 5, line 38) for an unknown wavelength and a wall thickness of 0.51 - 0.76 mm (col. 3, line 48). It has been held that where the general limitations of the claim are taught by the prior art, such as all the structural limitations, as in this case, discovering an optimum or workable range involves only routine skill in the art (*In re Aller*, 105 USPQ 233 (CCPA 1955)). One having ordinary skill in the art would understand that higher transmission percentages is desirable, and that if wall of the envelope were made thinner the experimental transmission performance results can be optimized into applicant's claimed ranges.

32. Therefore, at the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the Persiani with a thinner envelope wall to optimize the transmissive properties such that the finished ceramic wall of the discharge vessel has a total transmission of more than 98%, the total forward transmission is above 80%, and the real in-line transmission lies between 6% and 80% (for a wall thickness of 0.3 mm and a wavelength of 640 nm).

33. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Persiani as applied to claim 6, in view of Kawashima et al., U.S. Patent No. 6,294,870 B1.

34. With regard to claim 8, all of the limitations are disclosed by Persiani, as discussed in the rejection of claim 6, except that it does not expressly disclose that said lamp is mounted in a lamp assembly for projection purposes.

35. Kawashima, in figure 13, teaches a high intensity discharge lamp (1) mounted in a lamp assembly (77) for projection purposes (col. 24, lines 16-25).

36. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the Persiani lamp mounted in a lamp assembly for projection purposes, as taught by Kawashima, so that the light may be emitted in one particular direction for a functional purpose, such as a headlight or in a projector.

37. With regard to claim 9, all of the limitations are disclosed by Persiani, as discussed in the rejection of claim 6, except that it does not expressly disclose that said lamp is mounted in a vehicle headlight.

38. Kawashima, in figures 17 and 18, teaches a high intensity discharge lamp (1) mounted in a vehicle headlight (98) (col. 25, line 42—col. 26, line 17).

39. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the Persiani lamp mounted in a vehicle headlight, as taught by Kawashima, because this type of lamp would provide excellent light for this purpose.

40. With regard to claim 10, all of the limitations are disclosed by Persiani, as discussed in the rejection of claim 6, except that it does not expressly disclose that said lamp is mounted in a beamer multimedia projector.

41. Kawashima, in figure 16, teaches a high intensity discharge lamp (84) mounted in a beamer multimedia projector (col. 25, lines 33-41).

42. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the Persiani lamp mounted in a beamer multimedia projector,

as taught by Kawashima, because this type of lamp would provide excellent light for this purpose.

***Conclusion***

43. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

44. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

45. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Hollweg whose telephone number is (571) 270-1739. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm E.S.T..

46. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

47. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TH/

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